

AM-9931

ABSTRACT

A method and system to automatically restart a permanent magnet
turbogenerator/motor when a fatal fault is detected. The automatic restart logic includes time
constraints and limitations on the number of iterations, and is useful regardless of whether the
5 permanent magnet turbogenerator/motor is in a grid connect mode or a standalone mode, and
regardless of how the fatal fault originates or is detected. Additional control logic is utilized
to handle grid transients and over load conditions to prevent a fatal fault from occurring by
using time constraints and an iterative process, together with a brake resistor to control DC
bus voltage.